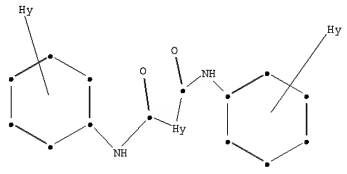
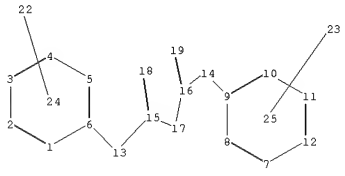
C:\Program Files\Stnexp\Queries\10531107.str





chain nodes :
    13 14 15 16 17 18 19 22 23
ring nodes :
    1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
    6-13 9-14 13-15 14-16 15-17 15-18 16-17 16-19
ring bonds :
    1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds :
    6-13 9-14 13-15 14-16 15-17 15-18 16-17 16-19
normalized bonds :
    1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
isolated ring systems :
    containing 1 : 7 :

Match level :
    1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
    12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:Atom 18:CLASS 19:CLASS 22:Atom 23:Atom
    24:Atom 25:Atom
Generic attributes :
    17:
    Saturation   : Unsaturated
    Number of Carbon Atoms : less than 7
    Number of Hetero Atoms : Exactly 1
    Type of Ring System   : Monocyclic
    22:
    Number of Carbon Atoms : less than 7
    Number of Hetero Atoms : 2 or more
    Type of Ring System   : Monocyclic
    23:
    Number of Carbon Atoms : less than 7
    Number of Hetero Atoms : 2 or more
    Type of Ring System   : Monocyclic

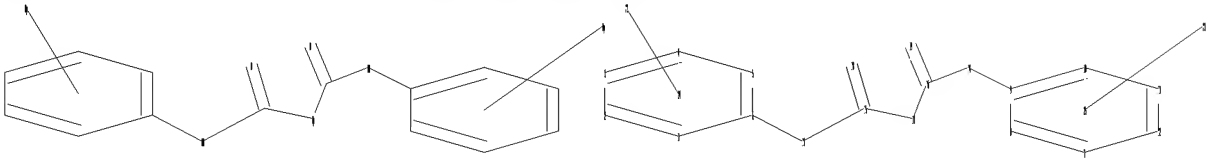
Element Count :

```
Node 17: Limited
    C,C5
    N,N1
    O,O0
    S,S0

Node 22: Limited
    C,C4
    N,N2
    O,O0
    S,S0

Node 23: Limited
    C,C4
    N,N2
    O,O0
    S,S0
```

=>
Uploading C:\Program Files\Stnexp\Queries\10531107.str



chain nodes :
13 14 15 16 17 18 19 22 23
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
6-13 9-14 13-15 14-16 15-17 15-18 16-17 16-19
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds :
6-13 9-14 13-15 14-16 15-17 15-18 16-17 16-19
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
isolated ring systems :
containing 1 : 7 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:Atom 18:CLASS
19:CLASS 22:Atom 23:Atom 24:Atom 25:Atom
Generic attributes :
17:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
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N,N1
O,O0
S,S0

```
Node 22: Limited
    C,C4
    N,N2
    O,O0
    S,S0

Node 23: Limited
    C,C4
    N,N2
    O,O0
    S,S0




L1      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1              STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.


=> s l1 sss sam
SAMPLE SEARCH INITIATED 14:44:29 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    32344 TO ITERATE

  6.2% PROCESSED     2000 ITERATIONS                                0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       636125 TO   657635
PROJECTED ANSWERS:               0 TO        0

L2            0 SEA SSS SAM L1

=> s l1 sss ful
FULL SEARCH INITIATED 14:45:03 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   651575 TO ITERATE

100.0% PROCESSED   651575 ITERATIONS                                4 ANSWERS
SEARCH TIME: 00.00.09

L3            4 SEA SSS FUL L1

=> => s l3
L4           1 L3

=> d l4 bib,ab,hitstr
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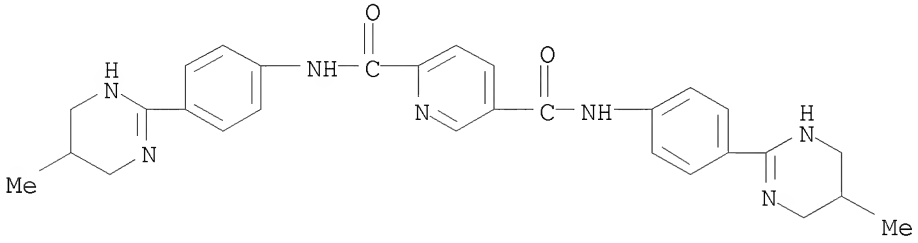
L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:333710 CAPLUS
DN 140:357366
TI Preparation of N,N'-bis(pyrimidinylphenyl)pyridinedicarboxamides as protein tyrosine kinase inhibitors
IN Danter, Wayne R.; Ma, George; Lazarowych, Natalie; Houldsworth, Stephen; Brown, Martyn; Rusu, Ghenadie; Zhong, Jianhua
PA Can.
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004033446	A1	20040422	WO 2003-CA1524	20031009
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2542007	A1	20040422	CA 2003-2542007	20031009
	AU 2003273675	A1	20040504	AU 2003-273675	20031009
	EP 1551824	A1	20050713	EP 2003-757583	20031009
	EP 1551824	B1	20071212		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	AT 380810	T	20071215	AT 2003-757583	20031009
	ES 2298563	T3	20080516	ES 2003-757583	20031009
	US 20060111371	A1	20060525	US 2005-531107	20051107
PRAI	US 2002-416911P	P	20021009		
	WO 2003-CA1524	W	20031009		

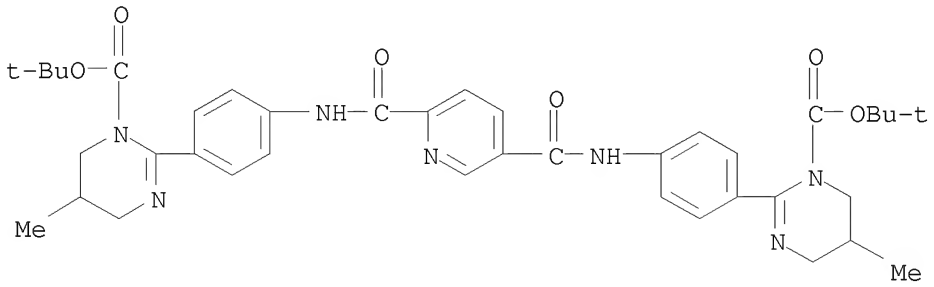
OS MARPAT 140:357366
AB ReTitle compds. I [wherein R1 and R2 = independently H, alkyl, alkenyl, alkynyl, halo, or (un)substituted (hetero)aryl, amino, or acyl; with the proviso that when R1 = H, then R2 ≠ H; and pharmaceutically acceptable salts, stereoisomers, and mixts. thereof] were prepared for use in pharmaceutical compns. for treatment of cancer involving inappropriate tyrosine kinase activity. For example, cycloaddn. of 4-nitrobenzonitrile with 1,3-diamino-2-methylpropane with Na in anhydrous EtOH gave 5-methyl-1,4,5,6-tetrahydro-2-(4-nitrophenyl)pyrimidine (23%). Boc-protection (89%) with di-tert-Bu dicarbonate in the presence of N,N-dimethylaminopyridine in CH2Cl2, followed by reduction (99%) with Raney Ni in anhydrous EtOH, provided 1-Boc-5-methyl-1,4,5,6-tetrahydro-2-(4-aminophenyl)pyrimidine. Coupling of the amine with pyridine-2,5-dicarboxylic acid using HBTU and HOBT in anhydrous DMF afforded the Boc-protected intermediate (38%), which was treated with a cold saturated HCl solution in MeOH to give I•2HCl (R1 = R2 = Me; II; COTI-001) in 74% yield. The latter showed -Log(GI50) = -5.0 against K562(CML) leukemia cells expressing abnormal protein tyrosine kinase in an in silico assay and was tolerated by mice at a dosage of about 25 mg/kg or less in an in vivo toxicity study.

IT 681806-85-9P, COTI 001
RL: ADV (Adverse effect, including toxicity); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer agent; preparation of N,N'-bis(pyrimidinylphenyl)pyridinedicarboxamides as protein tyrosine kinase inhibitors)
RN 681806-85-9 CAPLUS
CN 2,5-Pyridinedicarboxamide, N2,N5-bis[4-(1,4,5,6-tetrahydro-5-methyl-2-pyrimidinyl)phenyl]-, hydrochloride (1:2) (CA INDEX NAME)



●2 HCl

IT 681216-87-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of N,N'-bis(pyrimidinylphenyl)pyridinedicarboxamides as protein tyrosine kinase inhibitors)
RN 681216-87-5 CAPLUS
CN 1(4H)-Pyrimidinecarboxylic acid, 2,2'-[2,5-pyridinediylbis(carbonylimino-4,1-phenylene)]bis[5,6-dihydro-5-methyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    5.93     184.96

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -0.80      -0.80

STN INTERNATIONAL LOGOFF AT 14:46:09 ON 15 SEP 2008
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